

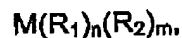
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AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claim 1. (Currently Amended) A ferromagnetic powder composition for die compaction to produce high density soft magnetic composite parts comprising soft magnetic iron-based core particles wherein at least 40% of said iron-based core particles consist of particles having a particle size above about 106 μm and less than 5% of said iron-based ore particles having a particle size below 45 μm and wherein the surfaces of the core particles are surrounded by an insulating inorganic coating, and a lubricating amount of a compound selected from the group consisting of silanes, titanates, aluminates, zirconates, or mixtures thereof, having the following general formula:



wherein M is a central atom selected from Si, Ti, Al, or Zr.

R_1 is a hydrolysable group,

R_2 is a group consisting of a lubricating organic moiety, wherein the sum of $m+n$ is the coordination number of the central atom;

n is an integer ≥ 1 and

m is an integer ≥ 1 .

Claim 2. (Canceled).

Claim 3. (Previously Presented) A composition according to claim 1 wherein the compound is present as a lubricating layer on the insulated particles.

Claim 4. (Canceled).

Claim 5. (Previously Presented) A composition according to claim 1, wherein R_1 is an alkoxy group having less than 12 carbon atoms.

Claim 6. (Previously Presented) A composition according to claim 1, wherein R_1 is a chelate group.

Claim 7. (Original) A composition according to claim 6, wherein the chelate group is a residue of hydroxyacetic acid ($-O(O=C)-CH_2O-$) or a residue of ethylene glycol ($-OCH_2CH_2O-$).

Claim 8. (Currently Amended) A composition according to claim 1, wherein R_2 is an organic group including between 6-30 carbon atoms, and optionally including one or more hetero atoms selected from the group consisting of N, O, S and P.

Claim 9. (Original) A composition according to claim 8, wherein the R_2 group is linear, branched, cyclic, or aromatic.

Claim 10. (Previously Presented) A composition according to claim 8, wherein the R₂ group is a chain selected from the group consisting of alkyl, ether, ester, phospho-alkyl, phospho-lipid, or phospho-amine.

Claim 11. (Original) A composition according to claim 10, wherein the R₂ is selected from the group consisting of phosphato, pyrophosphato or phosphito.

Claim 12. (Previously Presented) A composition according to claim 1, wherein the compound is selected from the group consisting of alkyl-alkoxy silanes and polyether-alkoxy silanes.

Claim 13. (Previously Presented) A composition according to claim 1, wherein the compound is selected from the group consisting of octyl-trimethoxy silane, hexadecyl-trimethoxy silane, polyethyleneether-trimethoxy silane, isopropyl-triisostearyl titanate, isopropyl-tri(dioctyl)phosphato titanate, neopentyl(diallyl)oxy-trineodecanoyl zirconate, neopentyl(diallyl)oxy-tri(dioctyl)phosphato zirconate, and diisobutylacetoacetyl aluminate.

Claim 14. (Previously Presented) A composition according to claim 1, wherein the insulating inorganic coating of the iron-based particles is phosphorous based.

Claim 15. (Previously Presented) A composition according to claim 1, wherein the iron-based core particles consist of essentially pure iron.

Claim 16. (Canceled).

Claim 17. (Canceled).

Claim 18. (Previously Presented) A powder composition according to claim 1, wherein at least 20% of the iron-based core particles consist of particles having a particle size above about 212 μm .

Claim 19. (Previously Presented) A composition comprising a compound according to claim 1, wherein the amount of the compound is present in an amount of 0.05-0.5% by weight.

Claim 20. (Previously Presented) A composition according to claim 1, which is mixed with additives, such as particular lubricants, binders or flow-enhancing agents.

Claim 21. (Currently Amended) Process for the preparation of soft magnetic composite materials having a density of at least 7.45 g/cm³ comprising the steps of

- providing an iron or iron-based powder composition comprising soft magnetic iron-based core particles wherein at least 40% of said iron-based core particles consist of particles having a particle size above about 106 μm and less than 50% of said iron-based core particles have a particle size below 45 μm and wherein the surfaces of the core

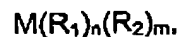
- particles are surrounded by an insulating inorganic coating, and a lubricating amount of a compound selected from the group consisting of silanes, titanates, aluminates, zirconates, or mixtures thereof;
- uniaxially compacting the obtained soft magnetic powder composition in a die at a compaction pressure of at least about 800 MPa; and
 - ejecting the green body from the compaction tool; and
 - optionally heat-treating the compacted body.

Claim 22. (Previously Presented) Process according to claim 21, wherein the compaction is performed at a pressure of at least about 900 MPa.

Claim 23. (Canceled).

Claim 24. (Canceled).

Claim 25. (Previously Presented) A process according to claim 21, wherein the compound has the following general formula:



wherein M is a central atom selected from Si, Ti, Al, or Zr,

R₁ is a hydrolysable group,

R₂ is a group consisting of a lubricating organic moiety, wherein the sum of m+n is the coordination number of the central atom;

n is an integer ≥ 0 and

m is an integer ≥ 1 .

Claim 26. (Canceled).

Claim 27. (Previously Presented) A process according to claim 25, wherein R_2 is an organic group including between 10-25 carbon atoms and optionally including one or more hetero atoms selected from the group consisting of N, O, S and P.

Claim 28. (Previously Presented) A composition according to claim 9, wherein the R_2 group is a chain selected from the group consisting of alkyl, ether, ester, phospho-alkyl, phospho-lipid, or phospho-amine.

Claim 29. (Previously Presented) A composition according to claim 1 wherein at least 60% of the iron-based ore particles consist of particles having a particle size of about 106 μm .

Claim 30. (Previously Presented) A composition according to claim 1 wherein at least 40% of the iron-based particles consist of particles having a particle size above about 212 μm .

Claim 31. (Previously Presented) A composition according to claim 1 wherein at least 60% of the iron-based particles consist of particles having a particle size above about 212 μm .

Claim 32. (Previously Presented) A composition comprising a compound according to claim 1, wherein the amount of the compound is present in an amount of 0.07-0.45% by weight.

Claim 33. (Previously Presented) A composition comprising a compound according to claim 1, wherein the amount of the compound is present in an amount of 0.08-0.4% by weight.

Claim 34. (Previously Presented) A process according to claim 21, wherein the compaction is performed at a pressure of at least about 1000 MPa.

Claim 35. (Previously Presented) A process according to claim 21, wherein the compaction is performed at a pressure of at least about 1100 MPa.

Claim 36. (Canceled).